

# **Greenhouse Gas Verification Report**

**Prism Farms**

**Biomass Heating Project**

2012 to 2013

March 2014



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## VERIFICATION BODY DETAILS

**Name:** Internat Energy Solutions  
**Address:** 425 Adelaide St. West, Suite 403A  
Toronto, Ontario  
M5V 3C1, Canada

**Accreditation Agency:** N/A  
**Accreditation ID:** N/A  
**Status of Accreditation:** N/A

**Main Contact** Livio Nichilo, P. Eng, EPT(GHG)  
Engineering Manager  
Phone: 416-628-4658 ext. 140  
Fax: 1-888-868-0960  
Email: l.nichilo@internatenergy.com

## CLIENT INFORMATION

**Client Name:** Prism Farms Ltd.

**Main Contact** Ryan Tiessen  
Vice President  
731 Mersea Road 7  
Leamington, ON, N8H 3V8, Canada  
Email: rtiessen@hotmail.com

## VERIFICATION DETAILS

### Verification Standard

The verification standards used in this report are consistent with ISO 14064-3, guidance from Alberta Quantification Protocol for Diversion of Biomass to Energy from Biomass Combustion Facilities version 1, September 2007, and any requirements from the GHG CleanProjects™ Registry.

### Verification Criteria

The environmental integrity criteria used in this project specify that the Verified Emission Reduction/Removals (VERRs) must be real, surplus, quantifiable, unique, verifiable and permanent. The stated amount of VERRs is a fair and accurate representation of the reduction over the period covered in the report and has been calculated in accordance with the method of quantification specified in Prism Farms Biomass Heating Project Version 2.1 (Project Report) dated March 28<sup>th</sup>, 2014.

### Reporting Period

This verification report covers the period from January 1<sup>st</sup>, 2012 to December 31<sup>st</sup>, 2013.

## Level of Assurance

A reasonable level of assurance as per ISO 14064-3 was used by Internat Energy Solutions Canada Inc.

## Verification Scope

The scope of this verification is the GHG emissions reductions and related assertions in the Prism Farms Biomass Heating Project document covering the period from 2012-2013.

**Project description:** Verify that the emissions from the Prism Farms Biomass Facility are in accordance with the assertion statement of:

**2012 – 4,351 tonnes CO<sub>2</sub> eq VERR's**

**2013 – 3,505 tonnes CO<sub>2</sub> eq VERR's**

**Total of 7,856 tonnes CO<sub>2</sub> eq VERR's**

That the emissions reductions were a result of avoidance in burning fossil fuels for thermal load requirements and the avoidance of methane emissions from the decomposition of organic wood wastes in landfills.

**Location:** 731 Mersea Road 7, Leamington, ON, N8H 3V8, Canada

Latitude, Longitude: 42.109658, -82.591341

**Ownership of Facility:** Prism Farms Ltd.

**Intended User:** CSA Canadian GHG CleanProjects™ Registry

**Project Start Date:** February 14<sup>th</sup>, 2006

## Verification Schedule

Verification planning and document review:	February 23 <sup>rd</sup> March 2 <sup>nd</sup> , 2014
Site visit:	March 3 <sup>rd</sup> , 2014
Verification Completion and Reporting:	March 7 <sup>th</sup> -27 <sup>th</sup> , 2014
Internal Review:	March 28 <sup>th</sup> , 2014

## Materiality

Materiality in this project is determined at the judgment of the verification body, following a full assessment of the emission reductions report including methodologies, calculations, and justifications for the baseline scenario, selection of Sources, Sinks and Reservoirs (SSRs) and quantification of the emission reductions, data management and quality control.

Qualitative materiality is determined at the discretion of the verifiers.

Quantitative materiality should not in aggregate exceed 5% of total reported emissions reductions.

## Verification Procedures

The verification procedures included, but were not limited to:

- Examining the Project Report for compliance with the Regulation and overall reasonableness
- Conducting interviews, data review and review of source documentation to gain an understanding of the controls over data collection and reporting
- Conducting a site visit to confirm that the project was completed as described in the Project Plan
- Reviewing the Project Report to ensure consistency with the Project Plan

- Conducting interviews with the Client to discuss and clarify calculation methods
- Tracing the figures disclosed in the Project Report back to the source data
- Examining the GHG emissions factor assumptions to assess the reasonableness of the assumptions
- Re-performance of a sample of the emissions calculations to assess the correct calculation of emissions based on the source data and emissions factor selected
- Substantiating natural gas consumption information to third party source documents
- Obtaining evidence of ownership of emission reduction rights associated with the project
- Verifying that the monitoring, metering, and recordkeeping procedures conducted by the Project operator (responsible party) provide little risk that materially significant errors could occur that would affect the accuracy of the GHG assertion.

## **Inherent Limitations in our Report**

Estimating greenhouse gas emissions from energy use and fuel delivery data is inherently imprecise. Emissions are not measured directly, and emission factors must be used in conjunction with observable data. To be sure, some amount of measurement error occurs when using emission factor estimates and when measuring observable data using different instruments. As a result, emission reduction quantifications are limited by some degree of uncertainty. This report has verified that such uncertainties have been reduced as much as possible.

## **Verification Team**

Team Lead and Technical Expert:

- Livio Nichilo : P.Eng, EPT(GHG)

Internal Reviewer:

- Kevin Tse: B.Sc, M.E.S

Conflict of Interest Auditor

- Fiona Jiang

## **Report Distribution**

- Ryan Tiessen, Prism Farms Ltd.

**VERIFICATION FINDINGS**

Item No.	GHG data and information or Issue	Verification Activities	Finding	Material Discrepancy
1	Eligibility requirements	<ul style="list-style-type: none"> <li>▪ Request statement from CFO stating that the GHG reductions have not been listed elsewhere and that no incentive funds were used for the implementation of the biomass facility</li> <li>▪ Request ownership documents for farm facility</li> </ul>	Documents stating no incentives were received for the construction of the biomass facility and credits have not been transferred for the project years along with ownership proof of the facility obtained	None
2	Natural gas consumption	<ul style="list-style-type: none"> <li>▪ Review invoices for 2012 and 2013 and check against consumption of previous years to identify unexpected energy use at site</li> <li>▪ Request a list of the annual usage of all heating fossil fuel used at the farm during the project years</li> </ul>	Energy usage for the project site was reviewed through the use of natural gas invoices of Union Gas	None
3	Alternative fossil fuel usage	<ul style="list-style-type: none"> <li>▪ Review invoices and calculations completed for baseline year</li> </ul>	Invoices for the baseline was obtained in previous verification	None
4	Biomass usage	<ul style="list-style-type: none"> <li>▪ Review biomass delivery tickets against values used in calculation</li> </ul>	Invoices for 2012 and 2013 were obtained and checked with delivery tickets viewed during site visit	None
5	Biomass testing	<ul style="list-style-type: none"> <li>▪ Review document and understand the conditions and who does the testing</li> <li>▪ Look for consistency of biomass shipments to the farms</li> </ul>	Test results for a sample period provided from the last verification as no new testing was completed	None
6	Biomass weighing	<ul style="list-style-type: none"> <li>▪ Obtain records for the calibration of the weight scales used for delivery of biomass to all farms</li> </ul>	Names provided for the weighing of third parties that are certified	None
7	Disposal of ash (fly and bottom) shipment	<ul style="list-style-type: none"> <li>▪ Shipment weights and locations determined from records</li> </ul>	No shipment are made as all the byproducts of the biomass combustion are used onsite and a letter was also provided to confirm that the ash is not shipped off site	None
8	Emissions release from biomass combustion	<ul style="list-style-type: none"> <li>▪ Confirm test results from 2007 and 2011 years for emissions resulting from biomass combustion</li> </ul>	Test results for one event done by NRCan provided but no other testing completed	None

9	Heating space	<ul style="list-style-type: none"> <li>▪ Understand heating intensities to look for efficiencies in facilities</li> </ul>	Space dimensions provided as the size of facility did not increase from previous verification	None
10	Origin and distance traveled of the biomass	<ul style="list-style-type: none"> <li>▪ Enquire with the biomass supplier about the origin and distance traveled of the raw materials used to produce the biomass</li> </ul>	Distances from origins of the biomass were obtained to allow for calculation checks on impact of transport to the project	None
11	Biomass boiler and support hardware	<ul style="list-style-type: none"> <li>▪ Calculate rough emission values that would be attributed to the duplicate hardware on site since both a biomass and natural gas system are in place</li> </ul>	Supplier and model of the equipment was obtained on-site and calculation checks completed in previous verification	None
12	VERR's calculations	<ul style="list-style-type: none"> <li>▪ Review of all calculations completed in the calculation of the VERR's in the spreadsheet</li> </ul>	All calculations and values for calculation sheet checked	None

### Material Discrepancies

None were identified

### Immaterial Discrepancies

The baseline ratio of natural gas and furnace oil usage was used for all project years when it is expected that this ratio would make some changes as the market costs of the fuel relative to each other changed.

### Aggregate Materiality

The qualitative and quantitative materiality of the VERRs was assessed with the verification and sample plan and no significant discrepancies were found.

## OPPORTUNITIES FOR IMPROVEMENT

The following opportunities for improvement were identified during the audit:

1. More recent testing is needed to identify the efficiency of the biomass combustion to system heat output for the facility
2. Biomass energy content measures need to be completed to ensure that previous values are still valid
3. Periodic third party weighing of biomass deliveries should be completed to ensure supplier weights are accurate

## VERIFICATION STATEMENT

April 17th, 2014

To:  
 Ryan Tiessen  
 Prism Farms Ltd.  
 731 Mersea Road 7  
 Leamington, ON, Canada, N8H 3V8

Blue Source Canada contracted Internat Energy Solutions Canada. ("IESC") to review the Prism Farms Biomass Heating PDD and supporting evidence of Verified Emission Reduction/Removals (VERRs) occurring over the period of January 1<sup>st</sup>, 2012 – December 31<sup>st</sup>, 2013.

The PDD claims a total of 4,351 tonnes CO<sub>2</sub> eq VERR's for 2012 and 3,505 tonnes CO<sub>2</sub> eq VERR's for 2013.

Year	CO <sub>2</sub> (tonnes)	CH <sub>4</sub> (tonnes)	N <sub>2</sub> O (tonnes)	SF <sub>6</sub> (tonnes)	HFCs (tonnes)	PFCs (tonnes)	Total (tonnes CO <sub>2</sub> e)
<b>2012</b>	2,966.2	68.0	-0.1	-	-	-	4,351
<b>2013</b>	2,393.0	54.6	-0.1	-	-	-	3,505

Blue Source Canada is responsible for the preparation and presentation of the information within the PDD. Our responsibility is to express a conclusion as to whether anything has come to our attention to suggest that the VERRs are not presented fairly in accordance with the methodology outlined in ISO 14064-2 ("Standard"), the Alberta Quantification Protocol for the Diversion of Biomass to Energy from Biomass Combustion Facilities ("Protocol"), and the criteria of the GHG CleanProjects™ Registry.

We planned and performed our work in order to provide a reasonable level of assurance, rather than absolute assurance with respect to the VERRs. Our review criteria were based on the standards, referenced protocols, and the principles of the environmental integrity criteria. We reviewed Blue Source Canada's methodology, VERRs, and associated documentation. We believe our work provides a reasonable basis for our conclusion.

Based on our review, nothing has come to our attention which causes us to believe that the VERRs contained in the GHG Assertion is not presented fairly in accordance with the relevant standards, referenced protocols and criteria, to a reasonable level of assurance.



Lead Verifier

Livio Nichilo, P.Eng  
 Internat Energy Solutions Canada Inc.

425 Adelaide St.W, Suite 403A  
 Toronto ON, M5V 3C1  
 Canada

Telephone: (416)-628-4658 ext. 140  
 Fax: 1-888-868-0960  
[www.internatenergy.com](http://www.internatenergy.com)



**APPENDIX A – CONFLICT OF INTEREST CHECKLIST**

<b>Circumstance Requiring the Development of a COI Management Plan</b>	<b>True</b>	<b>False</b>
The relationship(s) between IESC and the Project Proponent requesting the verification activity compromise or pose an unacceptable threat to the impartiality / independence of my organization.		√
The finances and sources of income of IESC compromise the impartiality of my organization.		√
The personnel IESC has scheduled to participate in the verification may have an actual or potential conflict of interest.		√
IESC provided greenhouse gas consultancy services to the Project Proponent. Greenhouse gas consultancy services include: <ul style="list-style-type: none"> <li>• Designing, developing, implementing or maintaining a GHG inventory;</li> <li>• Developing a GHG quantification protocol or project application form on behalf of the Project Proponent;</li> <li>• Developing project-specific GHG emission factors or other GHG related analysis;</li> <li>• Preparing GHG related documents, including guidance documents or procedures;</li> <li>• Designing or developing a GHG information system or related controls; and</li> <li>• Advising on matters related to GHG or carbon markets, appraising GHG liabilities or assets and/or completing GHG related analysis on behalf of the Project Proponent.</li> </ul>		√
IESC will use personnel that have, are, or will be employed by the Project Proponent.		√
IESC offers products or services that pose an unacceptable risk to impartiality		√
<b>Circumstances Resulting in Automatic Disqualification</b>		
IESC will outsource the issuance and/or review of the verification statement		√
IESC provided greenhouse gas consultancy services for the project requiring verification, including, but not limited to: <ul style="list-style-type: none"> <li>• Contributing to the development of the Offset System Quantification Protocol for the project type on behalf of the Project Proponent;</li> <li>• Completing or submitting the project application form on behalf of the Project Proponent;</li> <li>• Developing guidance documents or procedures for the project on behalf of the Project Proponent;</li> <li>• Completing or assisting in the compilation of information in the Greenhouse Gas Assertion that is the subject of the verification; or</li> <li>• Contributing to the development of the project, including but not limited to, developing project-specific greenhouse gas emission factors, performing other greenhouse gas related engineering analysis for the project; and designing or developing the greenhouse gas information system or related controls for the project.</li> </ul>		√
IESC has provided verification services to the Project Proponent for the same project over any stipulated limitations by the GHG program. This can be due to limits to the consecutive reporting periods, or passage of time since last verification for the project		√

**Declaration**

I have personally examined and am familiar with the information submitted in this Conflict of Interest Assessment. I hereby warrant that the submitted information is true, accurate and complete, and that all matters affecting the validity of this Conflict of Interest Assessment have been fully disclosed.

	<b>Name/Signature</b>	<b>Position</b>	<b>Date</b>
Prepared By:	Livio Nichilo	Lead Verifier	Feb 27, 2014
Approved By:	Fiona Jiang	COI Auditor	Feb 27, 2014